The Development of P2P Lending Platforms: Strategies and Implications

Cheuk Hang Au
The University of Sydney, chau0481@uni.sydney.edu.au

Yuan Sun
Zhejiang Gongshang University, zorrnsun@163.com

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Short Paper

Cheuk Hang Au
The University of Sydney Business School
The University of Sydney
chau0481@uni.sydney.edu.au

Yuan Sun*
School of Business Administration and Zhejiang Research Institute
Zhejiang Gongshang University
d05sunyuan@zju.edu.cn

*Corresponding Author

Abstract

Peer-to-Peer (P2P) lending is part of the broader Fintech revolution that is sweeping across the globe in recent years. Due to its immense potential for generating economic and social benefits, it is gaining plenty of attention from academics and practitioners alike. And yet, our knowledge on how to develop and manage the digital platforms that makes P2P lending possible is limited. To address this knowledge gap, we conducted a case study of Tuodao, one of the leading P2P lending platforms in China. Based on the preliminary data from this ongoing study, we constructed a process model that suggests the process of P2P lending platform development can traverse across three sequential stages. Each of the stages are marked by the employment of a distinct strategy that emphasizes the development of a particular side of the platform, which in turn, leads to a specific platform configuration and its associated developmental outcomes.

Keywords: Fintech, P2P Lending, Platform Development, Technology Startups, Case Study

Introduction

Peer-to-Peer (P2P) lending refers to the process of establishing a loan between individual borrowers and lenders, with an online platform operating as an intermediary (Bruton et al. 2015). It uses social networks to harness communities of both borrowers and lenders to improve the efficiency and effectiveness of aggregating and transferring funds (Lee and Teo 2015). By offering faster and more convenient access to loans for borrowers, and an alternative investment channel for lenders (Bachmann et al. 2011), the popularity of P2P lending has skyrocketed especially in developed financial markets across the globe in recent years (Chen et al. 2015). In fact, analysts are projecting that the size of the P2P lending market will reach approximately US$897.85 billion by 2024 (Bajpai 2016).

And yet, despite its growing prominence in the contemporary business landscape, our knowledge on how to develop and manage the digital platforms that makes P2P lending possible is limited (Bachmann et al. 2011; Lee and Teo 2015). In particular, of the handful of published works in this area, most of them are centered on identifying the critical success factors (CSFs) of the development of these platforms (e.g., Chen et al. 2015; Lee and Teo 2015), but without grasping the underlying nature of the process, the field is currently lacking a "recipe that strings [the CSFs] together in such a way as to tell the story of how [the outcome] occurs whenever it does occur" (Mohr 1982, p. 37). It is especially important to address this knowledge gap because most P2P lending platforms begin as startups with limited resources (Chen et al. 2014) that can ill afford to bear the consequences of poor management decisions and sub-optimal developmental initiatives (Castrogiovanni 1996). Addressing this knowledge can reduce the likelihood of

business failure (Dietz et al. 2016), and consequently, sustain the momentum of the global P2P lending revolution.

The aim of our research-in-progress paper is to address this knowledge gap through a case study of Tuodao, one of the leading P2P lending platforms in China. More specifically, through an in-depth examination of the strategies deployed and actions taken across the various stages of Tuodao's development, as well as their consequences, we are seeking to derive a preliminary process model of P2P lending platform development. In doing so, we are hoping that our study can contribute a process perspective of the phenomenon to complement the existing studies in the literature and provide more nuanced guidelines for practitioners on how such platforms can be developed and managed effectively. Accordingly, the research question of our study is: "How should a P2P lending platform be developed?"

Literature Review

We conducted a search on Google Scholar based on a number of different keywords (such as "FinTech", "P2P lending" and "digital platform"). Based on the search results, we then reviewed the abstract of each article to see if they were relevant to our phenomenon. The relevant articles were then extracted for an in-depth review. While our study is still ongoing, we have reviewed 20 articles related to P2P lending platforms and 15 articles related to digital platform development to date. We present our review of these articles in the following stream of reporting.

P2P Lending Platforms

P2P lending is a relatively recent phenomenon (Lee and Lee 2012) that may be traced back to the founding of Zopa, one of the earliest P2P lending platforms, in 2005 (Bachmann et al. 2011). But despite its short history, studies of the phenomenon have been steadily emerging in recent years, catalyzed by the proliferation of P2P lending platforms in practice and the rapid growth of the sector worldwide (Chen et al. 2015). Many P2P lending platforms are aiming to harness communities of both lenders and investors to improve the efficiency and effectiveness of aggregating and transferring funds (Bruton et al. 2015). In particular, the existing works on P2P lending platforms can generally be classified into three main categories (refer to Table 1): (1) Studies examining their developmental drivers (e.g., Lee and Teo 2015), (2) studies investigating their operational effectiveness (e.g., Guo et al. 2016), and (3) studies exploring their economic and social impact (Bruton et al. 2015).

Notwithstanding the academic and practical contributions of the existing body of work, our review of the literature reveals an important gap in relation to our research question. In particular, an overwhelming majority of the existing works in the literature are based on variance theories, but few have examined the P2P lending platform development from an in-depth process perspective (see Markus and Robey 1988). A process perspective is crucial to deepening our understanding of the phenomenon because not only can it serve to integrate the diverse perspectives on the necessary conditions for P2P lending platform development, but it incorporates temporality to potentially sequence those conditions as well (e.g., Tan et al., 2015b). This may result in the development of more nuanced and sophisticated theories, as well as provide a foundation for the formulation of precise, step-by-step guidelines for practitioners to reduce the likelihood of platform mismanagement or failure.

P2P lending platforms are characterized by a number of distinctive traits, including convenience, efficiency and potentially better loaning terms. However, in spite of these unique traits, P2P lending platforms are, at their core, a type of multi-sided platform (Hagiu 2007). This is because they consist of a diverse array of entities that interact to realize a collective value proposition (see Adner 2017). Consequently, in the absence of research that looks at the development of P2P lending platforms specifically, we turn to the literature on platform development as the starting point of our inquiry. This is to construct the theoretical lens that can be subsequently used to help us make sense of that data that we are collecting (Pan and Tan 2011).

Table 1. Selected Works on P2P Lending Platforms	
Source	**Key Prescriptions and Arguments**
Developmental Drivers	
Chen et al. (2014)	Acquiring lenders is the most important factor in P2P lending platform development, which in turn, is influenced by trust in borrowers and the platform.
Chen et al. (2015)	Trust is a critical determinant of willingness to lend. When there is a critical mass of lenders, a vibrant and self-sustaining P2P lending platform can be achieved.
Lee and Teo (2015)	There are five important CSFs of P2P lending platform development: Low-Profit Margin, Asset Light, Scalability, Innovative and Ease of compliance.
Operational Effectiveness	
Guo et al. (2016)	Historical data on previous loan applications and performance is key to predicting the performance of new borrowers and the viability of a P2P lending platform.
Leong et al. (2017)	Risk assessment capabilities, a viable digital hybrid business model, an ecosystem approach and user education are key to the operations of a P2P lending platform.
Economic and Social Impact	
Bachmann et al. (2011)	For borrowers, online P2P lending provides greater convenience and access to financial services, potentially under better terms. For lenders, it is an alternative means of investment with the risks tied to the credit rating of the funded loans.
Bruton et al. (2015)	P2p lending platforms provide access to loans for borrowers who are otherwise unlikely to obtain them from traditional financial institutions. Both lenders and borrowers may enjoy improved service quality and more efficient loan processes on these platforms.

Platform Development

Research on platforms emerged as a response to the new reality of inter-network, as opposed to inter-firm, competition that characterizes the contemporary business landscape (Iansiti and Levien 2004). A platform is defined as a commercial network of discrete entities (e.g., suppliers, intermediaries, and customers) (Cusumano and Gawer 2002) that are held together through mutual dependency and/or formal contracting (Pierce 2009). The platform tends to be structured around a platform sponsor, whose dominance stems from its control over network value creation or the underlying technological infrastructure (Teece 2007).

The development of a platform can bring about several important benefits for the participating entities including an enhanced market offering, operational efficiency, increased information sharing and optimized supply chain processes (Iansiti and Levien 2004). The realization of these benefits, in turn, is contingent on a number of CSFs, which include IT Capabilities, Participation Subsidies, Critical Mass, Platform Diversity, Platform Openness and Continuous Innovation (refer to Table 2).

Research Method

The case research method is especially appropriate for our study because its strengths lie in exploring 'how' research questions (Dube and Pare 2003), understudied and multi-faceted phenomena (Siggelkow 2007), as well as processes that cannot be separated from their contexts (Rynes and Gephart Jr 2004). All these strengths of case research method are relevant to our study. To address our research question, we identified two criteria for case selection. First, the ideal case study target should be a P2P lending platform that has achieved a significant extent of commercial success so that we are able to develop theory based on proven, if not best, practices (Pan and Tan 2011). Second, the case organization should ideally have employed a variety of strategies and initiatives in platform development so that a broader range of possibilities for action may be uncovered.

Table 2: CSFs of Platform Development

CSF	Description
IT Capabilities	IT capabilities can enable various strategic logics to drive platform development for the attainment of enterprise agility (see Tan et al. 2015a).
Participation Subsidies	Subsidizing the costs of participating on a platform for one group of entities can enhance the value of participation for other groups through network effects (see Parker and Alstyne 2005).
Critical Mass	Critical mass enables a platform to become self-sustaining, which enhances integration in value co-creation and decreases the complexity of coordination (see Iansiti and Levien 2004).
Platform Diversity	Platform diversity makes a wider array of resources available for the collective goals of the platform (see Iansiti and Levien 2004).
Platform Openness	Platform openness can influence innovation, and subsequently, platform development and profits (see Parker and Alstyne 2008).
Continuous Innovation	By continuously innovating and serving as a point of reference for other platform members, a platform sponsor can enhance the robustness of the platform (see Iansiti and Levien 2004).

Based on these criteria, we selected the case of Tuodao Financial Services, a P2P lending platform in China centered on car loans. Tuodao is especially appropriate for the purpose of our study because not only is it one of the commercially successful P2P lending platforms in China with a registered capital of CNY$50 million and branches in over 80 locations across the country, but a preliminary investigation into the background of the firm revealed that Tuodao had deployed a variety of creative strategies and initiatives toward the development of its platform, fulfilling both of our selection criteria perfectly.

Data Collection and Analysis

Research access was granted in July 2017. The study consisted of two main phases: a preparatory phase and a fieldwork phase. The focus of the preparatory phase was to collect and analyze data from various secondary sources, including websites, newspapers, online investment forums and internal organizational documents, to gain an overview of the case organization. The insights gained from this phase also facilitated the development of an interview guide for the subsequent fieldwork phase (Myers and Newman 2007). The emphasis of the fieldwork phase, on the other hand, was to collect primary data in relation to our research question and to explore the development process of Tuodao's platform in an in-depth manner (Pan and Tan 2011).

Semi-structured interviews are the primary means of data collection during the fieldwork phase (Myers and Newman 2007), and a total of 17 informants were identified and interviewed. The informants were selected based on chain referral sampling composed of representatives from Tuodao's top management, organizational IT function, as well as its various business units. The number and diversity of interviewees have ensured the representation of "a variety of voices" (Pan and Tan 2011, P.169). Each interview took an average of 45 minutes and was conducted with the help of the interview guide prepared in the preparatory phase. The guide consists a set of standard questions related to Tuodao's development strategies, as well as specific questions tailored for each informant based on their role within the organization (Pan and Tan 2011). All the interviews were recorded, transcribed to ensure data accuracy, and subsequently translated for data analysis (Walsham 1995). To take full advantage of the flexibility of the case research method, data analysis was conducted in parallel with data collection (Eisenhardt 1989). From our earlier literature review on P2P lending platforms and digital platform development, we developed a set of aggregate dimensions and themes that served as the initial theoretical lens to guide our interview and data collection (Gioia et al. 2013). These dimensions and themes included drivers, mechanisms and impact of P2P lending platform development, as well as the critical success factors of the development of platforms in general.

The data collected was coded using a blend of open, axial and selective coding (Pan and Tan 2011). Open coding was used to apply conceptual labels to the evidence that are relevant to our research question to form first-order concepts (e.g. "Increasing ease of participation for lenders"). Axial coding was then used to classify the pool of first-order concepts into second-order themes (e.g., "Subsidizing Lenders") that were either new or already existing (i.e., discussed previously in the literature and part of our theoretical lens). Selective coding was then used to abstract the second-order themes further (Gioia et al. 2013) into a number of aggregate dimensions (e.g., "Platform Development Strategies"). We have also used the visual mapping and narrative strategies to organize our data (Langley 1999). The visual mapping strategy was used to condense the massive amount of data into a diagrammatic form (Langley 1999) and for clarifying the orders of events (Van de Ven and Huber 1990), while the narrative strategy was used for creating a textual summary of the key events, activities and decisions related to the process of platform development (Van de Ven and Huber 1990). Beyond serving as summary devices, both the visual map and narrative were subsequently verified with some of our informants to validate our interpretation of what happened. While the study is still ongoing, the process of iterating between data, analysis and theory development will continue until the state of theoretical saturation is reached (Eisenhardt 1989).

Preliminary Findings

The preliminary findings from our ongoing study of Tuodao suggest that the development of a P2P lending platform is a process that traverses at least three stages (refer to Figure 1). Each of the stages are marked by the employment of a distinct platform development strategy, which in turn, leads to a specific platform configuration and its associated developmental outcomes.

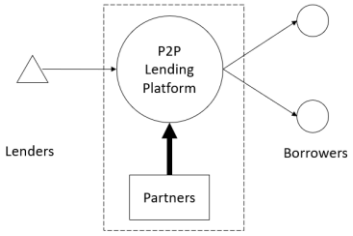
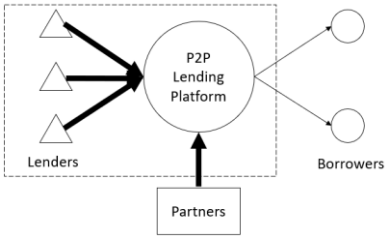
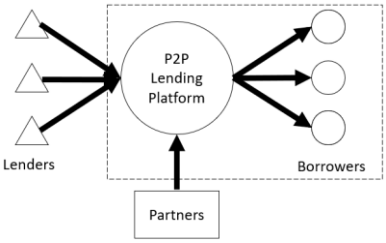
Stage 1 - P-Side Development	Stage 2 - L-Side Development	Stage 3 - B-Side Development
Antecedent Conditions		
Unmet need for car loans within the market	Inadequate user base (Lenders and Borrowers)	Challenges of service homogeneity (for borrowers)
Platform Development Strategy		
Leveraging Partnerships Establish partnerships with external firms to develop risk assessment capabilities and the financial resources needed	**Subsidizing Lenders** Enact initiatives to lower the costs of participation for lenders (e.g. setting up user guides and organizing monthly lenders meetings)	**Facilitating Borrowers** Provide additional services to borrowers to enhance delivered value and reduce the need for multi-homing
Resultant Platform Configuration and Developmental Outcomes		
		
Acquire core resources and capabilities, as well as attain legitimacy	Achieve critical mass of lenders and reduce dependency on business partners	Differentiate service, lock in borrowers, and achieve platform balance and business sustainability

Figure 1 – A Process Model of P2P Lending Platform Development

Stage 1 – P-side Development

At the point of its inception, the founders of Tuodao realized that there was an unmet need for financial services (i.e., car loans) among people who had limited or no credit histories (Chen and Jin 2017), which has made it difficult for them to obtain loans from conventional channels (Bruton et al. 2015). Consequently, Tuodao was found as a P2P lending platform to cater to this unmet need. However, Tuodao, as a fledgling startup, was lacking in even the most basic operational capabilities (e.g., the ability to assess the creditworthiness of their customers) at the time. This could have led to hesitance or reluctance on the part of lenders and borrowers to participate on Tuodao's newly established platform (Chen et al. 2015), or hindered its business viability.

To overcome these challenges, Tuodao's strategy in this stage was centered on establishing partnerships with external firms to develop the capabilities for risk assessment, which has been identified as a core business process for a P2P lending platform (see Leong et al. 2017). To this end, Tuodao began working with third party big data firms to acquire information on potential borrowers. The Chief Operating Officer of Tuodao explained: "*The big data (obtained from the big data firms) would help us in identifying and evaluating the risk of the applications. We may determine the interest rate and loan amount based on the likelihood of credit default*". In addition, Tuodao sought to work with a number of financial institutions to as to acquire the financial resources required to operate as a lending platform. The Head of Tuodao's Organizational Capital Division explained the rationale behind working with financial institutions initially even as the vision for the firm was to evolve into a P2P lending platform eventually: "*We may acquire funds in advance occasionally but not always, and therefore we need some external funding to support us*". As the focus of Tuodao's strategy in this stage was on the formation and leverage of relationships with external Partners, we term this stage P-side Development.

As a result of the external partnerships formed, Tuodao was able to acquire the core resources and capabilities that were required to get its business off the ground (see Guo et al. 2016). More importantly, working with existing financial institutions allowed Tuodao to achieve some extent of legitimacy (see Scott 2013), which served to mitigate the liability of newness (see Singh et al. 1986), manifested in the reluctance or hesitance of potential borrowers and lenders in relation to participating on its nascent platform.

Stage 2 - L-side Development

With its basic operational capabilities in place, Tuodao set about growing its user base. As Tuodao's management felt that the demand for its car loan services was already significant, they believed that it was more critical at this juncture to attract lenders as opposed to borrowers (see Chen et al. 2014). The Operations Manager of Tuodao explained: "*There are so many P2P lending firms and car-financing firms in China and it is hard to compete for lenders.*". Consequently, Tuodao pursued a platform development strategy seeking to provide participation subsidies to potential lenders, effectively subsidizing one side of its platform to generate network effects and attract members of the other side (see Parker and van Alstyne, 2005). Because of Tuodao's focus on its Lenders during this period, we term this stage L-side development.

As part of its developmental strategy, the participation subsidies provided by Tuodao included a number of initiatives such as publishing user guides and organizing monthly lender meetings for lenders to share knowledge on how to invest on the Tuodao platform, effectively reducing the transaction costs (see Tan et al., 2015a) for the lenders. Tuodao also set up a number of physical workshops in major cities across the country to facilitate the inspection of the vehicles being put up for collateral. The inspection would generate a standardized set of information in the form of the photos and vehicle details. This enhances the transparency of the borrowers' listings, which enhances the lenders' trust and lowers the search costs (see Parker and van Alstyne, 2005) for the lenders as well.

As a result of these participation subsidies, Tuodao was able to achieve a critical mass of lenders, which triggered positive network effects (Gawer and Cusumano 2014) to make it easier for them to attract borrowers as well. In addition, as more lenders came on board, Tuodao was becoming the P2P lending platform that it originally envisioned, which made it possible for Tuodao to reduce its dependency on the financial institutions that it partnered with in the first stage.

Stage 3 – B-side Development

With a critical mass of lenders on its platform, the management of Tuodao turned their attention toward scaling their business. In particular, they were now seeking to attract more borrowers and achieve balance between the multiple sides of their platform so as to transform their network into a symbiotic and self-sustaining ecosystem (Tan et al. 2015a). The challenges they faced, however, were mainly associated with the homogenous nature of the services it provided (see Ranaweera and Neely 2003): borrowers had alternative means of obtaining loans (e.g., from another P2P lending platform, illegal moneylenders, etc.) and there was a need to differentiate its services and retain the borrowers that it has already acquired (Leong et al. 2017). The Risk Assessment Manager of Tuodao explained: "*Borrowers will always gravitate toward the quickest way of obtaining loans, and what costs the least*". As Tuodao's focus was on its Borrowers during this period, we term this stage B-side development.

More specifically, to overcome the challenges associated with service homogeneity, Tuodao pursued a developmental strategy centered on facilitating its borrowers. As part of this strategy, Tuodao conducted a thorough analysis of its borrowers' needs and developed a suite of services to address them (complementing their original car loans service). For instance, Tuodao began offering fast-tracked loan services to enhance convenience for long-term customers with good credit histories, while also providing additional value-adding services (see Bachmann et al. 2011) that catered to their borrowers' needs holistically (e.g., car insurance and maintenance services for the borrowers, who were also car owners). These measures served to enhance the value proposition of Tuodao's services, and because most of the car-related needs of the borrowers can be met by Tuodao, these measures also reduced the need for multi-homing (i.e., participating on other platforms – see Armstrong 2006) for the borrowers as well.

As a result of this developmental strategy, Tuodao was able to differentiate its services from its competitors and lock-in its borrowers (Leong et al. 2017). More importantly, Tuodao was also better able to strike a balance between the multiple sides of the platform as well, which is especially crucial to P2P lending (Chen et al. 2014). These outcomes allowed Tuodao's platform to become self-sustaining, defined as a state where a platform can maintain itself and continue to grow without external intervention (Fourie 2016). The attainment of self-sustainability is thought to be crucial to promoting symbiosis among platform participants and is typically acknowledged as one of the key goals that has to be fulfilled toward becoming a mature multi-sided platform (Lee and Teo 2015; Tan et al. 2015a).

Discussion and Concluding Remarks

While our research is still ongoing, our work to date already hints at a number of potential theoretical and practical contributions. First, our study presents a conceptual innovation in our development of a process model of P2P lending platform development. In doing so, it contributes an in-depth view of how P2P lending platforms should be established and nurtured to complement the existing conceptual and variance theory-based studies (see Markus and Robey, 1988) in this rapidly growing research area. Second, our study has revealed that the development of P2P lending platforms can unfold across a specific sequence in three stages, and the development of a particular side of the platform should be emphasized in each stage. More specifically, at its inception, a platform should emphasize P-Side Development, working with Partners to ensure that it has the means to operate and address its existing capability gaps (see Guo et al. 2016). With this in place, the platform should then focus on L-Side Development to attract Lenders, because attracting the lenders would also attract borrowers and reduce the platform's dependency on its business partners. Finally, with a critical mass of lenders in place, the platform should channel its efforts toward B-Side Development to lock in Borrowers. This is largely due to the homogenous nature of the services of these platforms (see Ranaweera & Neely 2003) – borrowers may have access to alternative means of obtaining loans, and by differentiating its services and catering holistically to their needs, the platform may be able to better retain its borrowers to achieve platform self-sustainability (see Leong et al. 2017). Third, beyond revealing that the development of a different side of a P2P lending platform should be emphasized in each stage of the process, our study also hints at the strategies that can facilitate this.

From the perspective of owners and managers of P2P lending platforms, our work can serve as the foundation for formulating concrete, if not step-by-step, guidelines in the future, so that they are able to make the most of the efforts and resources invested in their platforms and extend the benefits of P2P

lending to a broader base of customers. From the perspective of government authorities and policymakers who are overseeing and regulating the P2P lending sector, our study can help them to identify the platforms that have a higher (or lower) likelihood of survival or success because they are deploying strategies that have been demonstrated to be appropriate (or inappropriate) for their developmental stage. Suitable resources and support can then subsequently be made available to these platforms accordingly.

Although studies based on a single case are considered as a "typical and legitimate endeavor" (Lee and Baskerville 2003, P.231), we must acknowledge the issue of generalizability as a potential limitation of our study. However, we contend that the process model developed in this paper and our findings are nevertheless generalizable because of the principles of analytic generalization (Yin 2003). In any case, our future work will be directed toward extending and validating our process model with the collection and analysis of additional data from Tuodao, and possibly other P2P lending platforms that operate under different contextual conditions. The boundary conditions and implications of our model will also be explored in greater depth through an ongoing literature review and further analyses of our data. By collecting and incorporating further data, and subjecting the data to more in-depth analyses, we hope to refine our process model further so that a more holistic understanding of P2P lending platform development, as well as its strategic and organizational implications, can emerge.

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